Gefen ®

A/V Cinema Scaler Pro I

EXT-AVCINEMAAAA

User Manual

DOLBY
DIGITAL
PRO LOGIC II

Technical Support:
Telephone   (818) 772-9100
                   (800) 545-6900

Fax   (818) 772-9120

Technical Support Hours:
8:00 AM to 5:00 PM Monday thru Friday PST

Write To:

Gefen, LLC
c/o Customer Service
20600 Nordhoff St
Chatsworth, CA 91311

www.gefen.com
support@gefen.com

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ANALOG Version

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INTRODUCTION

Congratulations on your purchase of the A/V Cinema Scaler Pro. Your complete satisfaction is very important to us.

Gefen

Gefen delivers innovative, progressive computer and electronics add-on solutions that harness integration, extension, distribution and conversion technologies. Gefen's reliable, plug-and-play products supplement cross-platform computer systems, professional audio/video environments and HDTV systems of all sizes with hard-working solutions that are easy to implement and simple to operate.

The Gefen A/V Cinema Scaler Pro

The Gefen Cinema Scaler is a video and audio device that can accomplish a unique variety of video scaling and audio conversion tasks. Any signal can be scaled and displayed with total end user control. An On-screen display (OSD) and full featured settings allow you to fine-tune your viewing experience and get the most out of your current A/V setup.

How It Works

Simply connect your analog or digital A/V sources to the Gefen Cinema Scaler. Using the OSD menu system and controls, select your desired input and resolution, audio processing needs, and other adjustments. The Cinema Scaler will brilliantly scale your image to your digital cinema projector or DVI /HDMI display.

Note: This unit is fully HDCP compliant.

READ THESE NOTES BEFORE INSTALLING OR
OPERATING THE A/V CINEMA SCALER PRO

- Audio from the analog DB-25 input is available in bypass mode only. No video will be output when using the bypass mode.

- Audio connection for each input is selectable between analog and digital. Selection of the audio input type is selectable using the front panel LCD menu system. For more information please see page 18.

- **Coaxial/Optical Digital Audio Format Support**

  2 Channel LPCM: 32kHz – 96kHz
  Multi-Channel AC-3   1-6 Channels Bitstream

- **HDMI Digital Audio Format Support**

  2 Channel LPCM   32kHz – 96kHz
  Multi-Channel AC-3   1-6 Channels Bitstream
  8 Channel LPCM   32kHz - 96kHz

- **Audio Processing**

  Dolby Pro Logic II   *All analog/digital (No DB-25) inputs.
  (See page 16 for a detailed description of this feature)

- **Maximum supported video input formats**

  DVI-D: Maximum resolution 1920x1200/60Hz
  DVI-I: Maximum resolution 1920x1200/60Hz (both analog and digital)
  Component: Maximum resolution 1920x1080/60Hz
  VGA: Maximum resolution 1920x1200/60Hz
  HDMI: Maximum resolution 1920x1080/60Hz

- **Supported video output formats:**

  Digital: 1920x1080p 24/50/60Hz and 2K (2048x1080p 24/50/60Hz)
  Analog: 1920x1080p 24/50/60Hz and 2K (2048x1080p 24/50/60Hz)

  23.97/24/50/60Hz passthrough is supported via all inputs. (Detailed timings can be found on page 13)

- **Supported audio output formats:**

  Analog: 8 channel discrete (balanced over DB-25)

- **This product is fully HDCP compliant**

Features

- 1 DVI-I video + analog or digital audio inputs

- 1 DVI-D video + analog or digital audio inputs

- 2 Component video + analog or digital audio inputs

- VGA + analog or digital audio input

- HDMI input

- DB-25 analog audio input (7.1 discrete, balanced)

- Support resolutions of 1920x1080p 60Hz and 2048x1080p 60Hz

- Selectable digital or analog audio input for each source (except HDMI)

- Front panel source selection with "bypass" mode for DB-25 pass-through

- RS-232 for optional firmware updates/external control

- LCD screen for scaling preferences & audio settings

- Audio delay for precise video synchronization

- Capable of "black barring"/stretching 4:3 aspect ratio

- Floating balanced audio outputs with separate power supply for avoiding ground loop issues.

Package Includes

(1) Cinema Scaler Pro I unit
(1) 12V DC Power Supply
(1) Set of Rack Ears
(1) User's Manual

Front Panel
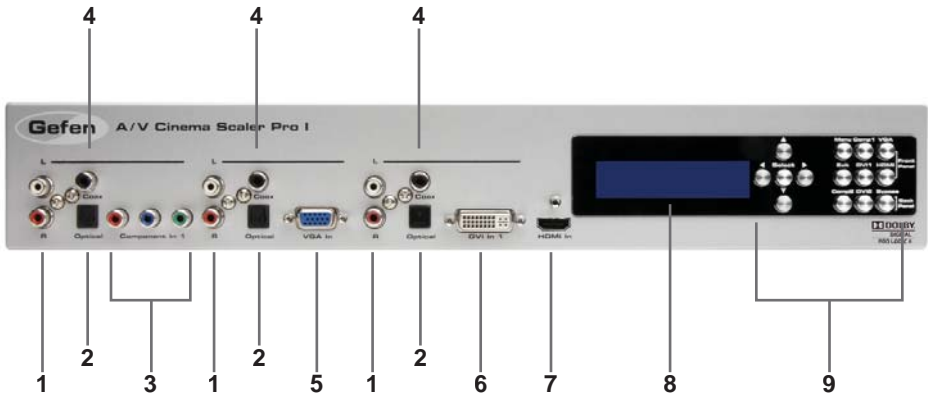
Back Panel

PANEL DESCRIPTIONS

1   Analog L+R RCA Audio Input
This input will accept 2 channel analog audio using 1 pair of RCA analog audio type connectors. There is a set of connectors available for all inputs except for the HDMI and DB-25 inputs. For a listing of accepted audio formats please see page 14.

2   Digital Optical Audio Input (TOSLINK)
This input will accept multi-channel digital audio using 1 optical type connector. There is a connector available for all inputs except for the HDMI, Component 2, and DB-25 inputs. For a listing of accepted audio formats, including supported audio channels, please see page 14-15.

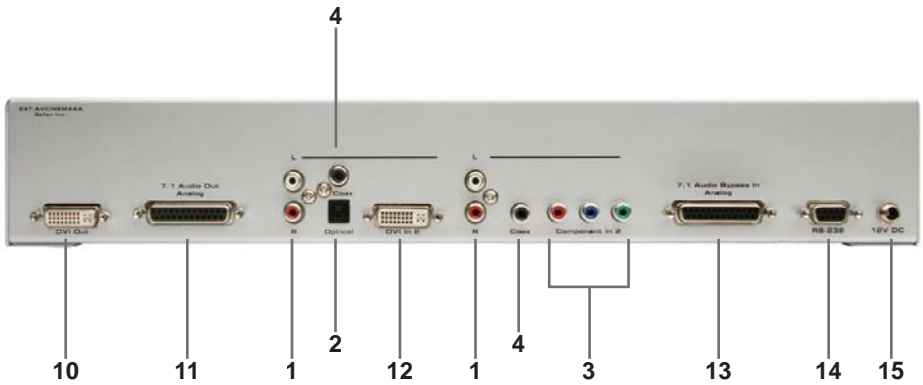*3   Component Video Input*
This input will accept component video (YPbPr) via 3 RCA type connectors. There is one set of connectors located on the front and back panels. For a listing of accepted resolutions please see page 13.

4   Digital Coaxial Audio Input (S/PDIF)
This input will accept multi-channel digital audio using 1 RCA type connector. There is a connector available for all inputs except for the HDMI and DB-25 inputs. For a listing of accepted audio formats, including supported audio channels, please see page 14-15.

5   VGA Video Input
This input will accept VGA video (RGBHV) via a HD-15 type connector. For a listing of accepted resolutions please see page 13.

6   DVI-I Video Input
This input will accept DVI-I video (RGB analog or digital) via a DVI-I type connector. Input format is automatically determined. For a listing of accepted resolutions please see page 13.

7   HDMI Input
This input will accept an HDMI (RGB,YCbCr) signal via an HDMI type A connector. Audio and video are both supported by this connector. For a listing of accepted resolutions and audio formats please see page 13.

8   High Contrast LCD Display
This display will show pertinent information for configuration control and status. For information on how to use this display please see page 12-19.

9   Navigation and Input Selection Buttons
These buttons are used to select the desired input source. Navigation buttons are also provided for easy user navigation and configuration of features. Please see page 7 for more information.

10 *DVI-D Output*

This input will accept DVI-D (RGB digital) capable display device via a DVI-I type connector. This output port will support displays that are capable of accepting the two output resolutions; 1080p and 2K.

11 *7.1 Channel Analog Audio Output*

This output will accept a DB-25 type connector to connect to a multi-channel analog audio device. This port is always active. All audio from each input will be converted and output through this port. For pin-out information please see page 42-43.

12 *DVI-D Input*

This input will accept DVI-D video (digital) via a DVI-I type connector. Input format is digital only. For a listing of accepted resolutions please see page 13.

13 *7.1 Channel Analog Audio Input*

This input will accept a DB-25 type connector for multi-channel analog audio input. This port is only active when the bypass mode is selected (page 41). For pin-out information please see page 42-43.

14 *RS-232 Serial Control Interface*

This port is used for serial communication for multiple functions. Access to certain features are only through the RS-232 interface.

15 *12V DC Power Receptacle*

This port will accept power via the included 12V DC power supply. This is a locking type connector.

Enter Menu

Menu **Comp1** **VGA**

Select

Exit **DVI1** **HDMI**

Input Selection Buttons

Comp2 **DVI2** **Bypass**

Navigation Buttons
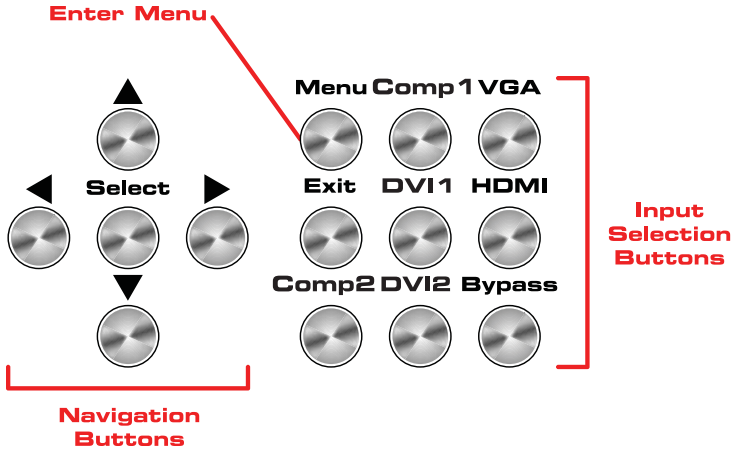
The front panel buttons are used for navigation, configuration, and input selection.

NAVIGATION

The directional buttons (◄ ▲ ► ▼) are used to navigate the user menus system. The **Select** button is used to confirm menu and item selections.

The **Menu** button is used to enter the configuration menu .

The **Exit** button is used to exit the configuration menu at any time.

INPUT SELECTION

The desired input port can be directly selected using the front panel input buttons. Simply press the desired input button. Source changing can take up to 10 seconds (longer when syncing digital video signals).

The bypass button will enable bypass mode (page 41).

INSTALLING THE A/V CINEMA SCALER PRO

1. Connect video source devices to the A/V Cinema Scaler Pro's video inputs. The following inputs are available:

    Front Panel
    > HDMI
    > DVI-I (analog and digital DVI)
    > VGA
    > Component

    Back Panel
    > DVI-D (digital DVI)
    > Component

NOTE:

2. Connect audio sources to the A/V Cinema Scaler Pro's audio inputs. The following inputs are available:

    Front Panel
HDMI:	Embedded audio
DVI-I:	Analog RCA L+R or Digital TOSLINK or S/PDIF
Component:	Analog RCA L+R or Digital TOSLINK or S/PDIF
VGA:	Analog RCA L+R or Digital TOSLINK or S/PDIF

    Back Panel
DVI-D:	Analog RCA L+R or Digital TOSLINK or S/PDIF
Component:	Analog RCA L+R or Digital S/PDIF
DB-25:	Analog multi-channel audio. Please see page 42-43 for specific pin-out information

NOTE: All inputs, except for HDMI, is able to accept both analog and digital audio sources. Therefore, each input has a selector option in the OSD that will allow the user to choose which type of audio is used.

3. Connect the DVI capable output device to the A/V Cinema Scaler Pro's DVI-I input.

NOTE: This output is a DVI-I connector. Analog or digital type video can be output through this connector. Selection of the output format can be accomplished by using either the OSD (on-screen display) or the front panel LCD and buttons. Please see page 17 for instructions on how to change the DVI output type.

4. Connect the analog DB-25 audio output to the analog DB-25 input on the appropriate audio device.

5. Connect the included 12V power supply between the A/V Cinema Scaler Pro and an open power socket. Ensure that the input cable is properly secured to the unit.

A/V CINEMA SCALER PRO - NAVIGATION

The A/V Cinema Scaler Pro uses a series of buttons, located on the front panel, for all input selection and feature functions. All status information, such as the input and output resolutions, are always available on the front panel **LCD Screen**. User adjustable features, such as color correction and aspect ratio, can be navigated and adjusted by referencing either the **LCD Screen** or the On-Screen Display (**OSD**).

All menu navigation and adjustments are accomplished by using the front panel buttons. Please review the front panel buttons below.
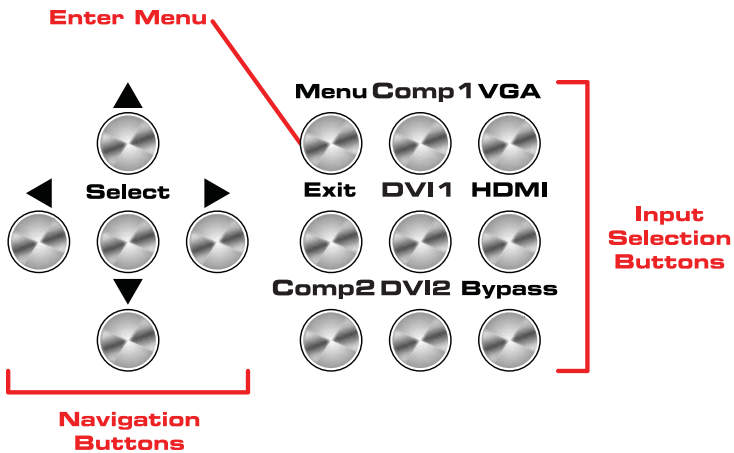
For a full description of each of these buttons please see the descriptions on page 7.

LCD SCREEN

The **LCD Screen** displays status information and can also be used to navigate and adjust functions on the A/V Cinema Scaler Pro. This display is a high contrast 2-line/16-character LCD. It will display information like in the example below.

Main Screen

```
DVI1:   1080P60
A : AC3 48K 5.1
```

A/V CINEMA SCALER PRO - INITIAL STARTUP

POWERING ON

Once all video and audio connections have been made and the power supply has been connected, the A/V Cinema Scaler Pro should automatically turn on. The front panel LCD should indicate this by displaying the text:

Product Title

```
┌─────────────────────────────┐
│ GEFEN INC.                  │
│ SIGNAL CONVERTER            │
└─────────────────────────────┘
```

This screen should be displayed for 3 seconds while the system is booting. Once this is complete, the **Main Screen** should appear.

There are 7 different information panes that are available to provide the user with useful information. These are the **Product Title**, **Main Screen**, **Output Screen, Surround Processing, DVI Output Type, HDMI EDID Type, and Audio Input Type** information panes. Please use the ▲ and ▼ buttons to cycle through the different information panes. The cycling order is displayed on the next page.

NOTE: The **Audio Input Type** pane will not be available when the **HDMI** input is selected.

```
               ▲ Up
       ┌─────────────────┐
       │ GEFEN INC.      │        **Product Title**
       │ SIGNAL CONVERTER│
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ DVI1:   1080P60 │        **Main Screen**
       │ A : AC3 48K 5.1 │
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ OUTPUT TIMING   │        **Output Screen**
       │ 1080P60         │
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ DOLBY PROLOGICII│        **Surround Processing Screen**
       │ PROCESSING <OFF>│
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ DYNAMIC RANGE   │        **Dynamic Range Control Screen**
       │ CONTROL   <OFF> │
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ REFERENCE LEVEL │        **Reference Level Compensation**
       │ COMP.     <OFF> │        **Screen**
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ DVI OUTPUT TYPE │        **DVI Output Type Screen**
       │ <DVI-D DIGITAL> │
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ HDMI EDID TYPE  │        **HDMI EDID Type Screen**
       │ <7.1>           │
       └─────────────────┘
   Down ▼        ▲ Up
       ┌─────────────────┐
       │ AUDIO INPUT TYPE│        **Audio Input Type Screen**
       │ A:<STEREO>      │
       └─────────────────┘
   Down ▼        ▲
```
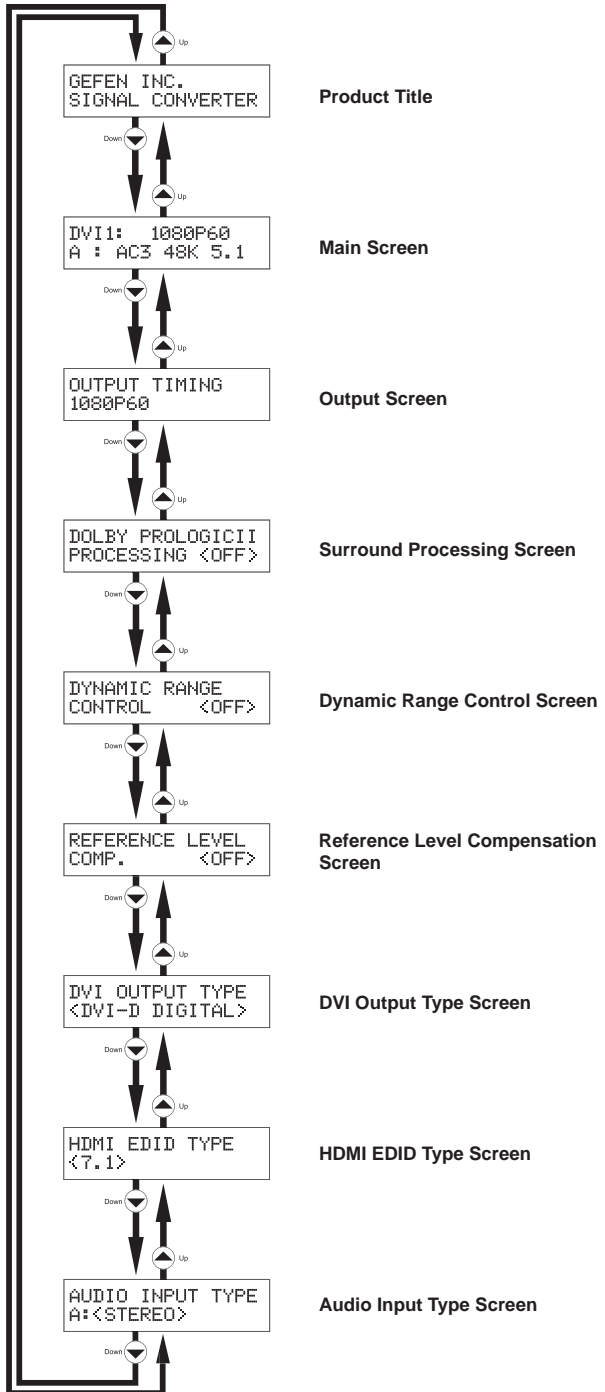
A/V CINEMA SCALER PRO - MAIN SCREEN

MAIN DISPLAY

The **Main Screen** will display useful information to the user. It displays the currently selected input port and audio input format. The currently used output format can also be displayed by pressing the ▼ button. Pressing the ◄ or ► buttons while on this screen will have no effect. Please see below for the **Main Screen** layout.

Selected Input   Input Resolution

```
DVI1:   1080P60
A : AC3 48K 5.1
```
Main Screen

Input Audio   Audio   Sampling   Number of
Type   Format   Rate   Channels
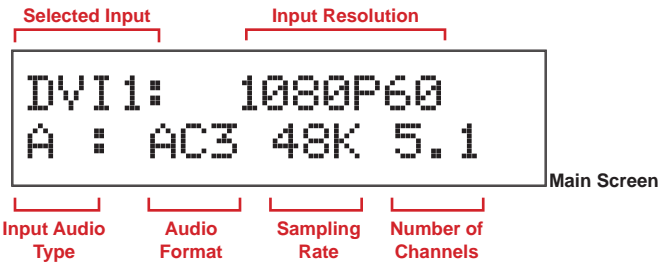
SELECTED INPUT

This portion of the screen will display the currently selected input. The available inputs, labels, and associated buttons are listed below:

LCD Display Name	Actual Input	Location	Front Panel Button
COMP1	Component	Front Panel	COMP1
PC	VGA	Front Panel	VGA
DVI-D1/DVI-A1	DVI-I	Front Panel	DVI1
HDMI	HDMI	Front Panel	HDMI
COMP2	Component	Back Panel	COMP2
DVI-D2	DVI-D	Back Panel	DVI2

INPUT RESOLUTIONS

This portion of the screen will display the currently selected input's resolution. The acceptable resolutions for each input type are listed below.

Input	Format	Resolution	Frequency
Component	YPbPr	480i/p	59/60Hz
		576i/p	50Hz
		720p	50/60Hz
		1080i/p	25/29.97/30/50/59.97/60Hz
PC (VGA)	RGBHV	VGA (640x480)	60Hz
		SVGA (800x600)	60Hz
		XGA (1024x768)	60Hz
		1152x864	60Hz
		SXGA (1280x1024)	60Hz
		1280x960	60Hz
		WXGA (1280x800)	60Hz
		WXGA (1360x768)	60Hz
		UXGA (1600x1200)	60Hz
		WUXGA (1920x1200)	60Hz
DVI-I (analog and digital)	RGBHV or RGB	VGA (640x480)	60Hz
		SVGA (800x600)	60Hz
		XGA (1024x768)	60Hz
		1152x864	60Hz
		SXGA (1280x1024)	60Hz
		1280x960	60Hz
		WXGA (1280x800)	60Hz
		WXGA (1360x768)	60Hz
		UXGA (1600x1200)	60Hz
		WUXGA (1920x1200)	60Hz
DVI-D & DVI-I (Digital Only) & HDMI	RGB or YCbCr	480i/p	59/60Hz
		576i/p	50Hz
		720p	50/60Hz
		1080i/p	23.97/24/25/29.97/30/50/59.97/60Hz

NOTE: 23.97/24/50/60Hz signal are pass-through. No framerate conversions will be applied.

13

AUDIO INPUT TYPE

This portion of the screen will display the currently selected input's audio type. All inputs, except for HDMI, will accept both an analog and digital type audio signals. The user can choose which type of audio is selected by using the **Audio Input Type** pane**.** Each input's audio type, except for HDMI, can be user selected. This is not available in bypass mode.

Input	Audio Input Type	LCD Display (Audio Type)
COMP1	Analog (L+R RCA)	A
	Digital (S/PDIF)/(TOSLINK)	D
VGA	Analog (L+R RCA)	A
	Digital (S/PDIF)/(TOSLINK)	D
DVI1	Analog (L+R RCA)	A
	Digital (S/PDIF)/(TOSLINK)	D
HDMI	Digital (S/PDIF)	D
COMP2	Analog (L+R RCA)	A
	Digital (S/PDIF)	D
DVI2	Analog (L+R RCA)	A
	Digital (S/PDIF)/(TOSLINK)	D

AUDIO FORMATS

This portion of the screen will display the currently selected input's audio format. When the input's audio type selector switch is set to analog, the display will only read "Stereo"; Sampling rate and number of channels will not be displayed. This does not cover the bypass mode.

Input	Audio Input Type	Supported Audio Formats
COMP1	Analog (L+R RCA)	Stereo
	Digital (S/PDIF)/(TOSLINK)	PCM / ▮▮ (Dolby Digital)
VGA	Analog (L+R RCA)	Stereo
	Digital (S/PDIF)/(TOSLINK)	PCM / ▮▮ (Dolby Digital)
DVI1	Analog (L+R RCA)	Stereo
	Digital (S/PDIF)/(TOSLINK)	PCM / ▮▮ (Dolby Digital)
HDMI	Digital (S/PDIF)	PCM / ▮▮ (Dolby Digital)
COMP2	Analog (L+R RCA)	Stereo
	Digital (S/PDIF)	PCM / ▮▮ (Dolby Digital)
DVI2	Analog (L+R RCA)	Stereo
	Digital (S/PDIF)/(TOSLINK)	PCM / ▮▮ (Dolby Digital)

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SAMPLING RATES

This portion of the screen will display the currently selected input's audio sampling rate. This will only display information when the input audio type is digital. This does not cover the bypass mode.

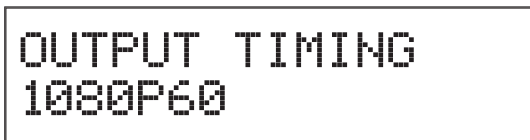| Input	Audio Input Type	Supported Sampling Rates
COMP1	Digital (S/PDIF)	32KHz-96KHz
VGA	Digital (S/PDIF)	32KHz-96KHz
DVI1	Digital (S/PDIF)	32KHz-96KHz
HDMI	Embedded Digital	32KHz-96KHz
COMP2	Digital (S/PDIF)	32KHz-96KHz
DVI2	Digital (S/PDIF)	32KHz-96KHz

NUMBER OF CHANNELS

This portion of the screen will display the number of audio channels that are being used by the currently selected input. This will only display information when the input audio type is digital. This does not cover the bypass mode.

Input	Audio Input Type	Supported PCM Channels	Supported ▣▣ (Dolby Digital) Channels
COMP1	Digital (S/PDIF)	Up to 2	Up to 6 (5.1)
VGA	Digital (S/PDIF)	Up to 2	Up to 6 (5.1)
DVI1	Digital (S/PDIF)	Up to 2	Up to 6 (5.1)
HDMI	Embedded Digital	Up to 8	Up to 6 (5.1)
COMP2	Digital (S/PDIF)	Up to 2	Up to 6 (5.1)
DVI2	Digital (S/PDIF)	Up to 2	Up to 6 (5.1)

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OUTPUT SCREEN

Pressing the ▼ button when the **Main Screen** is displayed will take the user to the **Output Screen**. This screen is provided to easily determine and change the current output resolution setting.

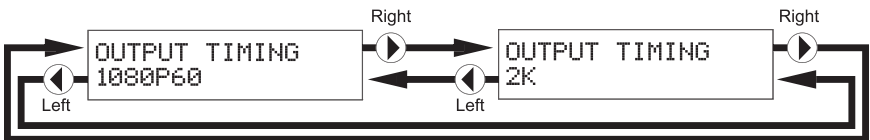```
OUTPUT TIMING
1080P60
```

**Output Screen**

**Output Timing**

This A/V Cinema Scaler Pro supports only two output resolutions

| Output | Resolution |
|--------|------------|
| 1080P60 | 1920x1080 60Hz |
| 2K | 2048x1080 60Hz |

The user has the option of changing the output resolution from the **Output Screen**. Use the ◄ or ► buttons to immediately change the output resolution.



Pressing the ▲ button will return the user to the **Main Screen**. Pressing the ▼ will cycle the user to the **Product Title** screen.

**NOTE:** 1080p 24Hz is supported and will be passed through as either 1080p 24Hz or 2K 24Hz depending on the selected output resolution.

## SURROUND PROCESSING

This unit features Dolby Pro Logic II surround sound processing. Dolby Pro Logic II processes any high quality stereo signal source into five separate full frequency channels. Dolby Pro Logic II also decodes 5 channels from stereo signals encoded in traditional four-channel Dolby Surround or five-channel Dolby Pro Logic II.

```
DOLBY PROLOGICII
PROCESSING <OFF>
```

This screen will display the current status of the surround processing mode. Pressing the ▲ button will return the user to the **Output Screen**. Pressing the ▼ will cycle the user to the **DVI Output Type** screen.

The user has the option of changing the processing mode from the **Surround Processing** screen. Use the ◄ or ► buttons to immediately change the processing mode on or off.
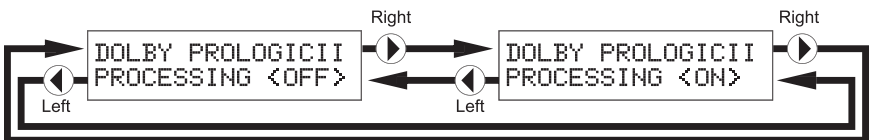
**NOTE:** When the processing mode is set to ON, it will only have an affect on 2 channel analog and digital sources.

DYNAMIC RANGE COMPRESSION

Dynamic Range Compression (DRC) is a feature that will apply compression of loud sounds over a certain threshold while quiet sounds remain untreated. This feature is useful for reducing loud noises that will overpower quieter sounds.

```
DYNAMIC RANGE
CONTROL    < ON>
```

This screen will display the current **DRC** state. Pressing the ▲ button will return the user to the **Surround Processing** screen. Pressing the ▼ will cycle the user to the **RLC** screen.

The user has the option of changing the **DRC** state from this screen. Use the ◄ or ► buttons to immediately change the **DRC** state.

Right

```
DYNAMIC RANGE
CONTROL    < ON>
```

Left

Right

```
DYNAMIC RANGE
CONTROL    <OFF>
```
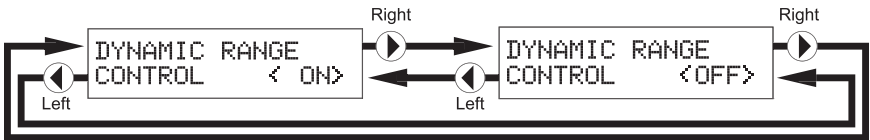
Left

REFERENCE LEVEL COMPENSATION

Reference Level Compensation (RLC) features attenuation that can be used to apply a -3dB gain to the front right/left and center channels. This -3dB will be applied when RLC is on.

```
REFERENCE LEVEL
COMP.      < ON>
```

This screen will display the current **RLC** state. Pressing the ▲ button will return the user to the **DVI Output Type** screen. Pressing the ▼ will cycle the user to the **DRC** screen.

The user has the option of changing the **RLC** state from this screen. Use the ◄ or ► buttons to immediately change the **RLC** state.
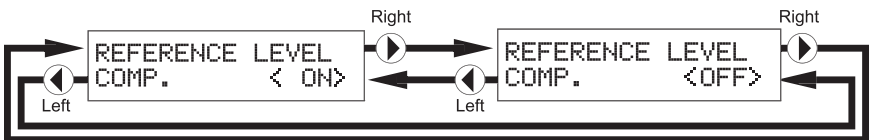
Right

```
REFERENCE LEVEL
COMP.      < ON>
```

Left

Right

```
REFERENCE LEVEL
COMP.      <OFF>
```

Left

DVI OUTPUT TYPE

The DVI output is a DVI-I type which can be connected to either a digital or analog DVI device. This option will allow the user to change the output type at anytime. Please note that HDCP protected content will not be output when the modes is set to **DVI-A Analog**.

```
DVI OUTPUT TYPE
(DVI-D DIGITAL)
```

This screen will display the currently selected **DVI Output Type**. Pressing the ▲ button will return the user to the **RLC** screen. Pressing the ▼ will cycle the user to the **HDMI EDID Type** screen.

The user has the option of changing the **DVI Output Type** from this screen. Use the ◄ or ► buttons to immediately change the **DVI Output Type**.

Right

Right

```
DVI OUTPUT TYPE          DVI OUTPUT TYPE
<DVI-D DIGITAL>          <DVI-A ANALOG >
```

Left

Left
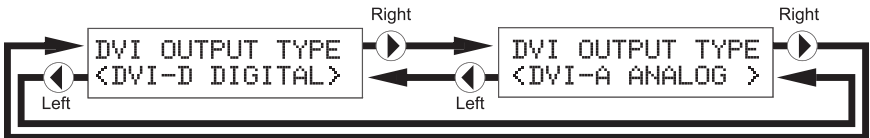
NOTE: In accordance with HDCP regulations, protected content will not be output via the DVI-I port when the **DVI Output Type** is set to **DVI-A Analog.**

HDMI EDID TYPE

This option will set the supported LPCM audio channels in the EDID (display/ device information). This will allow the HDMI source device to output up 7.1 channels of LPCM audio or limit it to 5.1 channels.

```
HDMI EDID TYPE
<7.1>
```

This screen will display the currently selected **HDMI EDID Type**. Pressing the ▲ button will return the user to the **DVI Output Type** screen. Pressing the ▼ will cycle the user to the **Audio Input Type** screen.

The user has the option of changing the **HDMI EDID Type** from this screen. Use the ◄ or ► buttons to immediately change the **HDMI EDID Type**.

Right

```
HDMI EDID TYPE
<7.1>
```
Left

Right

```
HDMI EDID TYPE
<5.1>
```
Left
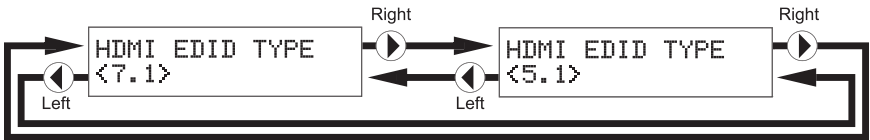
NOTE: This option will simply set the supported audio formats to include either 5.1 or 7.1 LPCM audio formats. The source must still be able to output these formats for this option to have any effect.

AUDIO INPUT TYPE

Each input, excluding the HDMI input, supports multiple audio input types. This option will allow the user to select the desired audio type for each input. For a complete listing of the supported formats for each input, please see page 14.

```
AUDIO INPUT TYPE
A:<STEREO>
```

This screen will display the currently selected **Audio Input Type**. Pressing the ▲ button will return the user to the **HDMI EDID Type** screen. Pressing the ▼ will cycle the user to the **Product Title** screen.

The user has the option of changing the **Audio Input Type** from this screen. Use the ◄ or ► buttons to immediately change the **Audio Input Type**.

Left

```
AUDIO INPUT TYPE
A:<STEREO>
```
Right

Left

```
AUDIO INPUT TYPE
D:<COAXIAL>
```
Right

Left

```
AUDIO INPUT TYPE
D:<OPTICAL>
```
Right
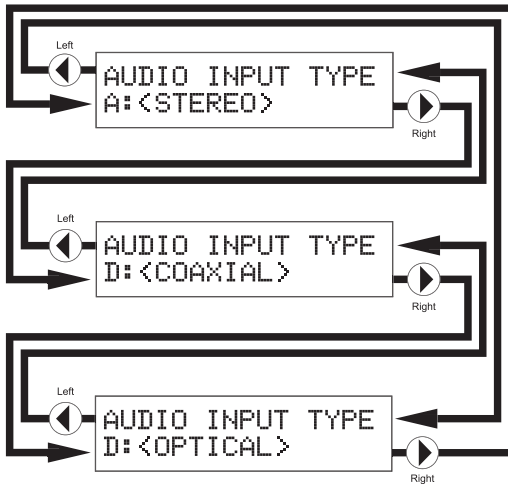
NOTE: This option is not available on the HDMI and Bypass inputs. The Component 2 input does not have an OPTICAL audio input.

PRODUCT TITLE
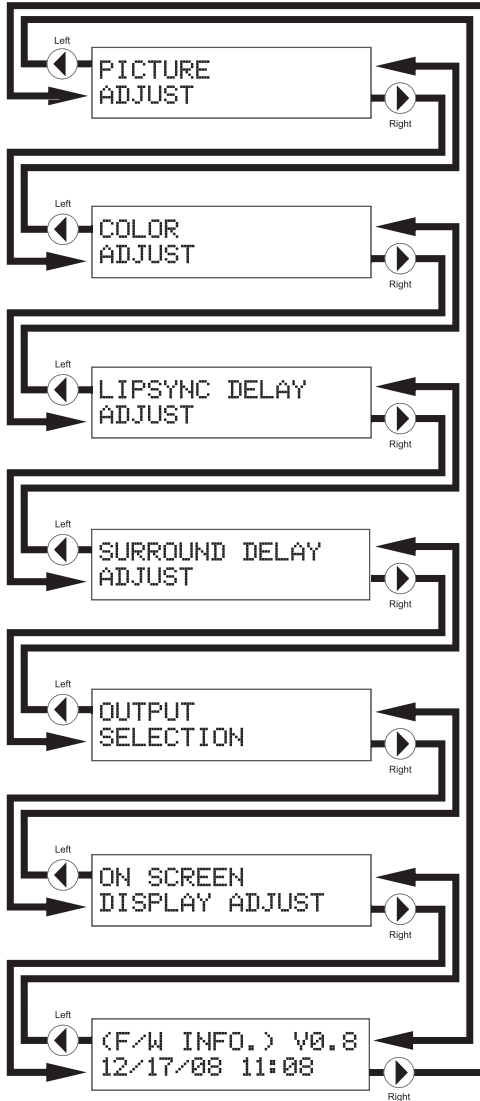
This screen will display the product title. Pressing the ▲ button will return the user to the **Output Screen**. Pressing the ▼ will cycle the user to the **Main Screen**. Pressing the ◄ or ► buttons while on this screen will have no effect.

```
GEFEN INC.
SIGNAL CONVERTER
```

MAIN FEATURES MENU

Once all connections have been made and a valid video input signal is detected, the **Main Features Menu** will become available. The following video/audio adjustment menus will also become available. From any of the information panes on the **Main LCD** screen, press the **Menu** button to enter the **Main Features Menu**. Use the ◄ and ► buttons to cycle through the **Main Features Menu**. The following illustrates the order of the features and the cycling order.

```
      Left
        ◄    PICTURE
        ►    ADJUST
                                     Right

      Left
        ◄    COLOR
        ►    ADJUST
                                     Right

      Left
        ◄    LIPSYNC DELAY
        ►    ADJUST
                                     Right

      Left
        ◄    SURROUND DELAY
        ►    ADJUST
                                     Right

      Left
        ◄    OUTPUT
        ►    SELECTION
                                     Right

      Left
        ◄    ON SCREEN
        ►    DISPLAY ADJUST
                                     Right

      Left
        ◄    (F/W INFO.) V0.8
        ►    12/17/08 11:08
                                     Right
```

A/V CINEMA SCALER PRO - CONFIGURATION

The following are the **Main Features Menu** items and short descriptions:

Picture Adjust   Options in this menu include preset video settings and user adjustable video settings. Items such as brightness, contrast, and sharpness are found here.

Color Adjust   Options in this menu control the appearance of white. Preset settings are available, as well as a user setting with manual control.

Lipsync Delay   This menu will allow the user to apply a lip sync delay that is input specific. Settings made for one input will not affect another input.

Surround Delay   This menu will allow the user to apply a delay to each individual surround channel. Right surround, left surround, rear right surround, and rear left surround channel delay adjustments can be made. These settings are global and will affect all output audio, no matter which input is selected.

Output Selection   This menu will control which output resolution is used.

OSD Adjust   This menu controls options for the on-screen display system. Items such as OSD-timeout and opacity are found here.

Firmware   The firmware revision and build date are listed here.

NOTE: The following pages will strictly reference what the **LCD Screen** displays when adjusting options. The **OSD** will mirror the options and functions in the following sections.

A/V CINEMA SCALER PRO - PICTURE ADJUST

The **Picture Adjust** menu will allow the user to select predefined picture modes that will help enhance the final video output. These presets will help by tuning the output video to compensate for different lighting and viewing environments. Presets can be bypassed by using the **User** setting. Once the **User** setting has been selected all individual options become modifiable.

To enter the **Picture Adjust** menu use the ◄ and ► buttons from the **Main Features Menu** to select **Picture Adjust**. Use the ▼ or **Select** button to enter the menu. The following page illustrates all possible options that are available in the **Picture Adjust** menu for all inputs.

NOTE: Some menu items will be input specific and will not appear in other input menu. All adjustments in this menu are global for all inputs except Bypass Mode.

| **Menu for HDMI, DVI-D and DVI-I (Digital Portion) Inputs**	**Menu for Component Inputs**	**Menu for VGA and DVI-I (Analog Portion) Inputs**
MODE: (STANDARD)	MODE: (STANDARD)	CONTRAST: 050
CONTRAST: 050	CONTRAST: 050	BRIGHTNESS: 050
BRIGHTNESS: 050	BRIGHTNESS: 050	HORIZONTAL POSITION: 050
HUE: 050	HUE: 050	VERTICAL POSITION: 050
SATURATION: 050	SATURATION: 050	CLOCK: 050
SHARPNESS: 050	SHARPNESS: 050	PHASE: 050
ASPECT RATIO (FULL)	ASPECT RATIO (FULL)	ASPECT RATIO (FULL)
EXIT PICTURE ADJUST	NOISE REDUCTION (OFF)	EXIT PICTURE ADJUST
	EXIT PICTURE ADJUST	

━━━━━ *MODE* ━━━━━

The preset picture modes are selectable with this option. Preset contrast, brightness, hue, saturation, and sharpness settings are stored for each mode. When the mode is switched to **User** all individual options will be available for adjustment.

```
MODE: (   USER   )
```

To cycle between the modes, use the ◄ or ► or **Select** buttons. The change will be immediate and no other buttons need to be pressed to confirm the change. The modes and cycle order is listed on the next page.
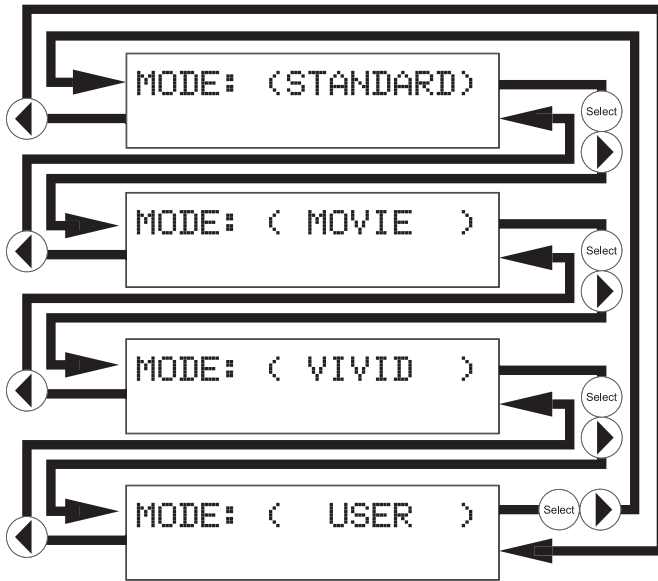
The preset modes are listed below:

Standard   Useful for general content

Movie   Useful for dimly lit environments

Vivid   Useful for accentuating colors for a more vibrant image

User   User configured settings

Once the **User** mode is selected, additional options will become available. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

CONTRAST

This option will set the contrast level for the output video signal.
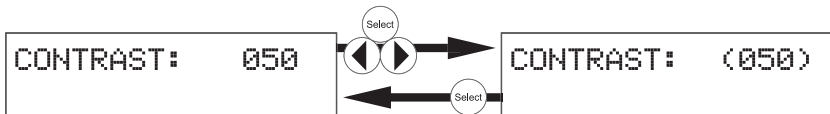
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

BRIGHTNESS

This option will set the brightness level for the output video signal.

```
BRIGHTNESS: 050    Select  →    BRIGHTNESS:(050)
                   ◄◐◑►
                    Select ←
```
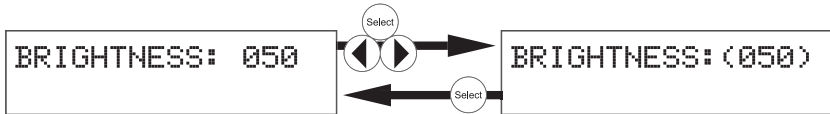
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.
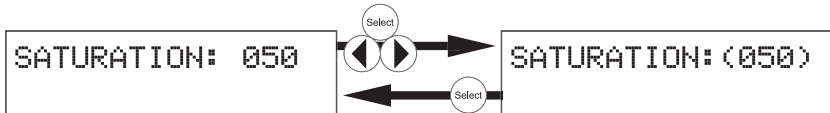
HUE

This option will set the hue balance for the output video signal. This option will not be available when the VGA or DVI-I (Analog portion) input is selected.

```
HUE:        050    Select  →    HUE:        (050)
                   ◄◐◑►
                    Select ←
```
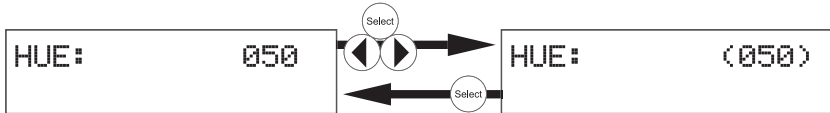
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

SATURATION

This option will set the saturation level for the output video signal. This option will not be available when the VGA or DVI-I (Analog portion) input is selected.

```
SATURATION: 050    Select  →    SATURATION:(050)
                   ◄◐◑►
                    Select ←
```

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

SHARPNESS

This option will set the sharpness level for the output video signal. This option will not be available when the VGA or DVI-I (Analog portion) input is selected.

```
SHARPNESS:   050        Select    SHARPNESS:  (050)
              ◄ ►
                        Select
```
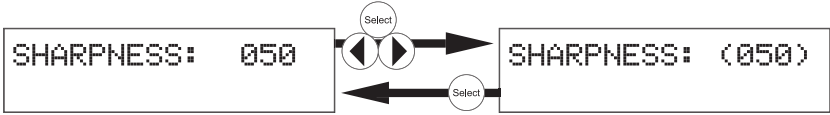
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

ASPECT RATIO

The aspect ratio of the output video is set with this option. There are 5 aspect ration modes to choose from.

```
ASPECT RATIO
(   FULL    )
```

To cycle between the aspect ratio modes, use either the ◄ or ► or **Select** buttons. The change will be immediate and no other buttons need to be pressed to confirm the change. The aspect ratio modes and cycle order is listed below.

```
ASPECT RATIO
(   FULL    )

ASPECT RATIO
(OVERSCAN  )

ASPECT RATIO
(UNDERSCAN)

ASPECT RATIO
(LETTERBOX)

ASPECT RATIO
(  PANSCAN  )
```
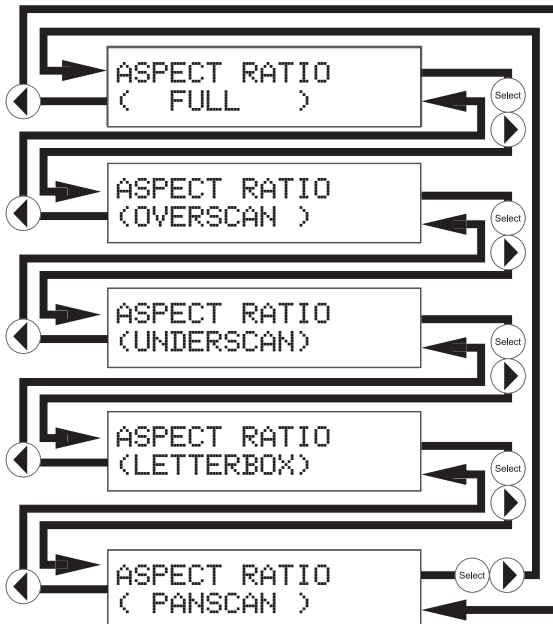
The aspect ratio modes are listed below:

Full   Stretches the image to fill the screen

Overscan   Stretches the image to just beyond the border of the output
                  resolution (a portion of the image may be cropped)

Underscan   Stretches the image to just within the border of the output
                  resolution (a black border will appear around the outside edges)

Letterbox   Stretches the image to 16:9 aspect ratio without underscan

Panscan   Stretches the image to 4:3 aspect ratio without underscan

Please use the examples below do determine which aspect ratio mode should
be used. Please pay attention to the appearance of the circles. All circles
that appear as ovals will result in an output image that appears stretched/
Compressed.
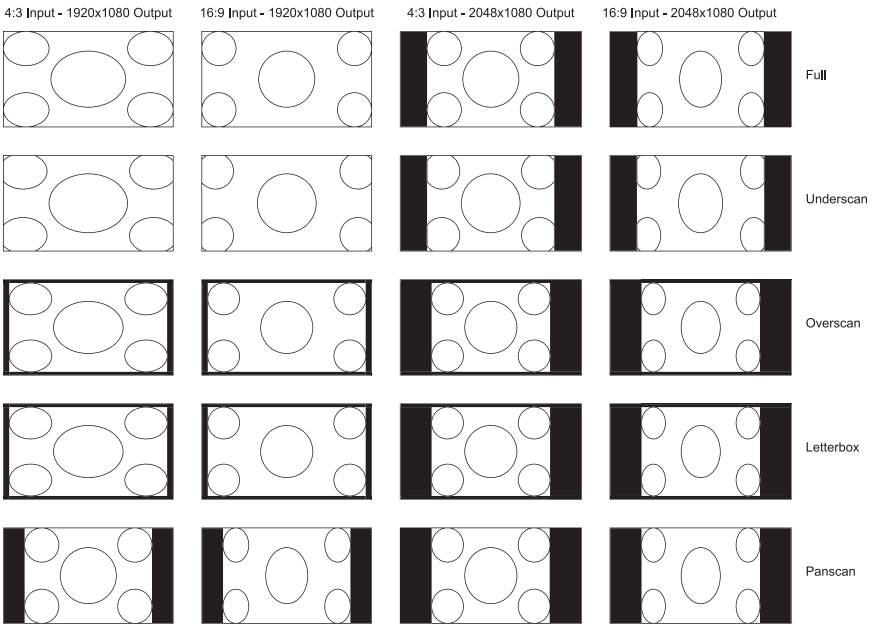
Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

NOISE REDUCTION

This option will allow the user to apply a noise reduction filter to the component video input sources. This option will only be available when the input source is component video. The noise reduction filter reduces noise that commonly appears in analog video sources. There are 4 settings to choose from.

```
NOISE REDUCTION
<    OFF    >
```

To cycle between the noise reduction settings, use either the ◄ or ► or **Select** buttons. The change will be immediate and no other buttons need to be pressed to confirm the change. The aspect ratio modes and cycle order are listed below.
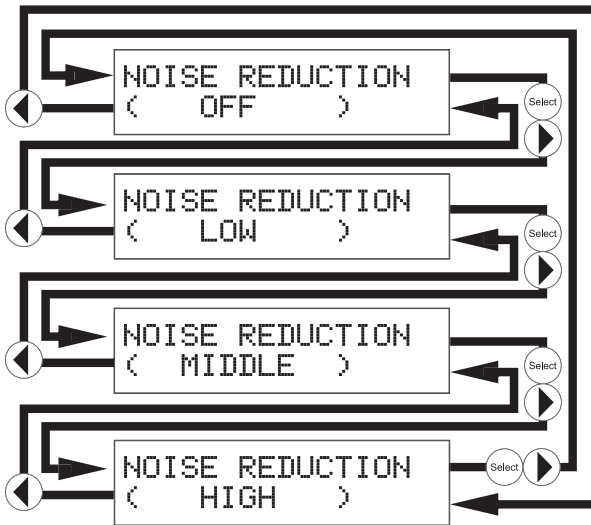
The noise reduction modes are listed below:

Off   Noise reduction is off

Low   Low level video noise reduction is applied

Middle   Moderate level video noise reduction

High   High level video noise reduction (may cause a slight ghosting effect on objects)
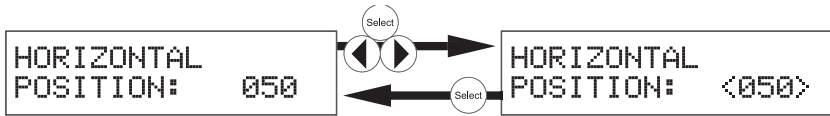
Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

◢ HORIZONTAL POSITION ◣

This option will set the horizontal position of the video image in relation to the output border. This option is only available when using the VGA or DVI-I (Analog portion) inputs.

```
HORIZONTAL              HORIZONTAL
POSITION:    050        POSITION:   <050>
```

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.
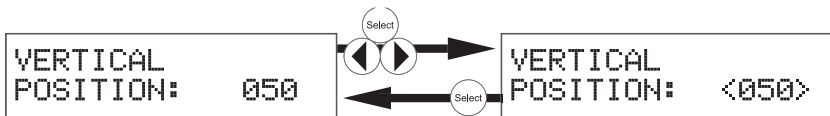
◢ VERTICAL POSITION ◣

This option will set the vertical position of the video image in relation to the output border. This option is only available when using the VGA or DVI-I (Analog portion) inputs.

```
VERTICAL                VERTICAL
POSITION:    050        POSITION:   <050>
```
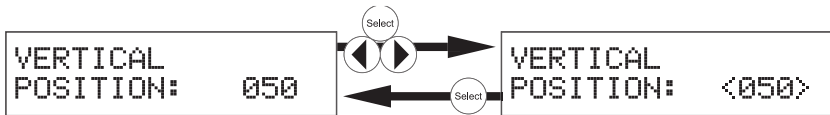
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

◢ CLOCK ◣

This option will adjust the clock timing to enable the user to adjust the video image. This option is only available when using the VGA or DVI-I (Analog portion) inputs.

```
VERTICAL                VERTICAL
POSITION:    050        POSITION:   <050>
```

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

PHASE

This option will adjust the phase to enable the user to adjust the video image.
This option is only available when using the VGA or DVI-I (Analog portion) inputs.

```
VERTICAL            VERTICAL
POSITION:    050    POSITION:   <050>
```
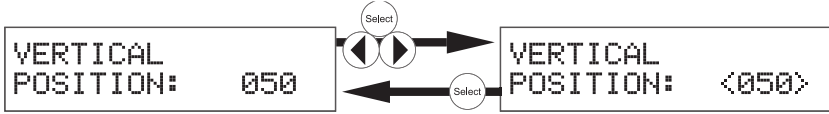
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and >
character will surround the numerical value to signify that user adjustment can
begin. Use the ◄ and ► to adjust the value of this option. When adjustments are
complete, press the **Select** button to save. Use the ▼ button to select the next
option. Use the ▲ option to return to the previous option.

EXIT PICTURE ADJUST

This option will return the user to the **Main Features Menu**.

```
EXIT
PICTURE ADJUST
```

To return to the **Main Features Menu** press the **Select** button. Pressing the ▼
button will cycle to the **Mode** option. Use the ▼ button to select the next option.
Use the ▲ option to return to the previous option.

A/V CINEMA SCALER PRO - COLOR ADJUST

The **Color Adjust** menu will allow the user to select predefined settings for the
appearance of white (color temperature). Presets can be bypassed by using
the **User** setting. Once the **User** setting has been selected all individual options
become modifiable.

To enter the **Color Adjust** menu use the ◄ and ► buttons from the **Main
Features Menu** to select **Color Adjust**. Use the ▼ or **Select** button to enter the
menu. The following page illustrates all possible options that are available in the
Color Adjust menu.

COLOR ADJUST MENU OPTIONS

```
COLOR TEMP
(  NORMAL )

RED:          50

GREEN:        50

BLUE:         50

EXIT
COLOR ADJUST
```

These Options are only available when the **User** mode is selected
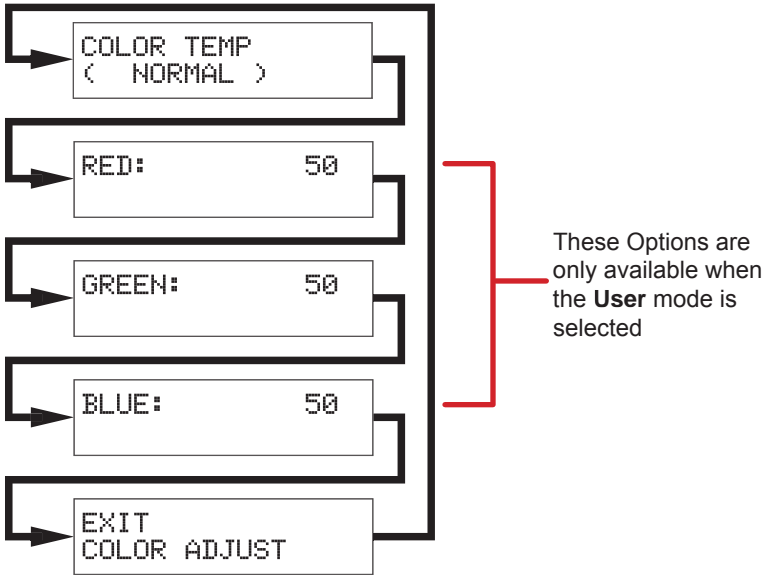
━━━━━ *COLOR TEMP* ━━━━━

The preset color temperature modes are selectable with this option. Preset red, green, and blue settings are stored in each mode. When the mode is switched to **User** all individual options will be available for adjustment.

```
COLOR TEMP
(  NORMAL )
```

To cycle between the modes, use the ◄ or ► or **Select** buttons. The change will be immediate and no other buttons need to be pressed to confirm the change. The modes and cycle order is listed are listed on the following page.
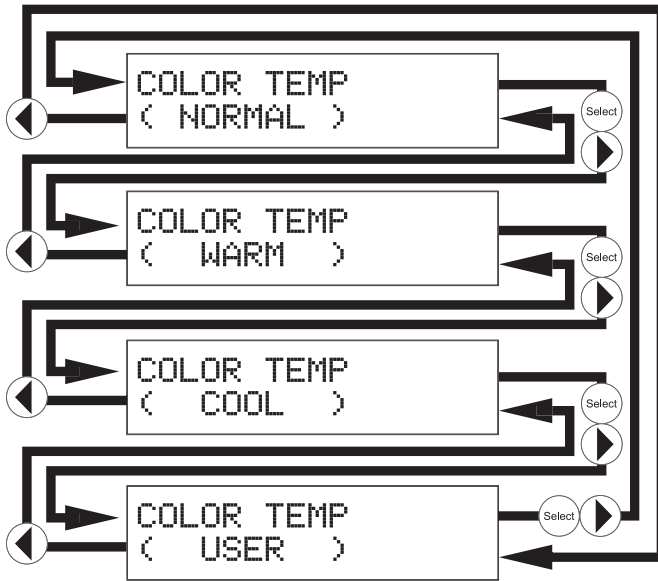
The preset color temperature settings are listed below:

Normal   Colors/white will be neutral. White should not have an overly red or blue appearance.

Warm   Colors/white will have a slightly red appearance.

Cool   Colors/white will have a slightly blue appearance.

User   User configured settings

Once the **User** mode is selected, additional options will become available. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

═══════ *RED* ═══════

This option will set the amount of red in the output video signal.
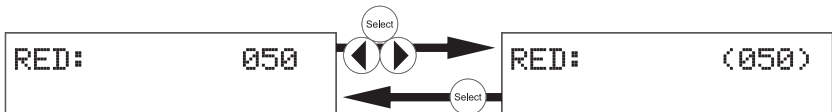
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

GREEN

This option will set the amount of green in the output video signal.

| GREEN: 050 | Select ◀ ▶ → Select | GREEN: (050) |

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

BLUE

This option will set the amount of blue in the output video signal.
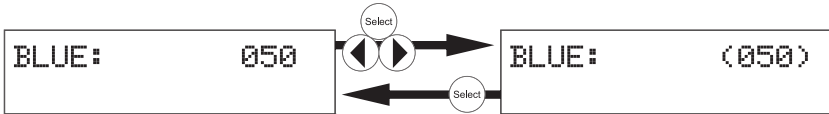
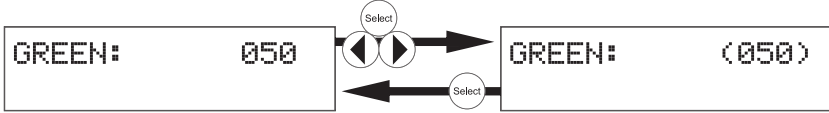| BLUE: 050 | Select ◀ ▶ → Select | BLUE: (050) |

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

EXIT COLOR ADJUST

This option will return the user to the **Main Features Menu**.

```
EXIT
PICTURE ADJUST
```

This option will return the user to the **Main Features Menu**. To return to the **Main Features Menu** press the **Select** button. Pressing the ▼ button will cycle to the **Color Temp** option. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

A/V CINEMA SCALER PRO - LIPSYNC DELAY ADJUST

The **Lipsync Delay Adjust** menu will allow the user to apply a lip sync delay that is useful for correcting errors in synchronization between the audio and video. This delay has a maximum correction time of 80 milliseconds. Each input can have a separate lip sync adjustment value. This adjustment will not affect audio delay when in the Bypass Mode.

To enter the **Lipsync Delay Adjust** menu use the ◄ and ► buttons from the **Main Features Menu** to select **Lipsync Delay Adjust**. Use the ▼ or **Select** button to enter the menu. There is only one option in this menu.

LIPSYNC DELAY

This option will set the lip sync delay for the currently selected input.

```
LIPSYNC DELAY
<    0 MS   >
```

Pressing the ► or **Select** buttons will advance the delay by 5 millisecond increments. Pressing the ◄ button will reduce the delay by 5 milliseconds. The maximum delay available is 80 milliseconds. Use the ▼ or ▲ button to select the **Exit LipSync Adjust** option.

EXIT LIPSYNC ADJUST

This option will return the user to the **Main Features Menu**.
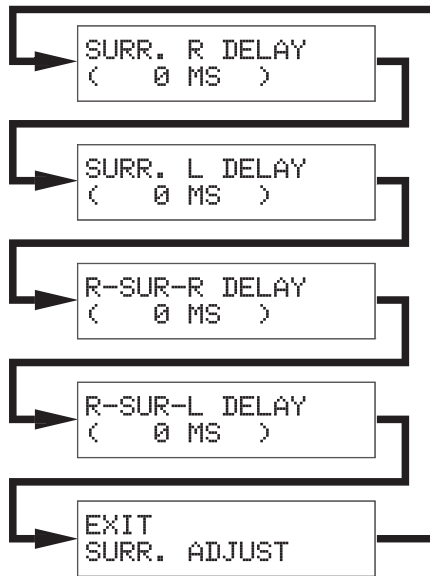
```
EXIT
LIPSYNC ADJUST
```

This option will return the user to the **Main Features Menu**. To return to the **Main Features Menu** press the **Select** button. Pressing the ▼ or ▲ button will return the user to the **LipSync Delay** option.

A/V CINEMA SCALER PRO - SURROUND DELAY ADJUST

The **Surround Delay Adjust** menu will allow the user to apply a delay to compensate for the distance between the main and surround audio channels. Each surround delay has a maximum correction time of 150 milliseconds. The settings in this menu option are global and will affect the surround channels for every input. This adjustment will not affect audio delay when in the Bypass Mode.

To enter the **Surround Delay Adjust** menu use the ◄ and ► buttons from the **Main Features Menu** to select **Surround Delay Adjust**. Use the ▼ or **Select** button to enter the menu. The following illustrates all possible options that are available in the **Surround Delay Adjust** menu.

```
┌──────────────────────┐
│ SURR. R DELAY        │
│ (   0 MS   )         │
└──────────────────────┘

┌──────────────────────┐
│ SURR. L DELAY        │
│ (   0 MS   )         │
└──────────────────────┘

┌──────────────────────┐
│ R-SUR-R DELAY        │
│ (   0 MS   )         │
└──────────────────────┘

┌──────────────────────┐
│ R-SUR-L DELAY        │
│ (   0 MS   )         │
└──────────────────────┘

┌──────────────────────┐
│ EXIT                 │
│ SURR. ADJUST         │
└──────────────────────┘
```

SURROUND RIGHT DELAY

This option will set the surround delay for the surround right channel.

```
SURR. R DELAY
(   0 MS   )
```

When this option is selected, pressing the ► or **Select** buttons will advance the delay by 5 millisecond increments. Pressing the ◄ button will reduce the delay by 5 milliseconds. The maximum delay available is 150 milliseconds. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

SURROUND LEFT DELAY

This option will set the surround delay for the surround left channel.

```
SURR. L DELAY
(    0 MS   )
```

When this option is selected, pressing the ► or **Select** buttons will advance the delay by 5 millisecond increments. Pressing the ◄ button will reduce the delay by 5 milliseconds. The maximum delay available is 150 milliseconds. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

REAR SURROUND RIGHT DELAY

This option will set the surround delay for the rear surround right channel.

```
R-SUR-R DELAY
(    0 MS   )
```

When this option is selected, pressing the ► or **Select** buttons will advance the delay by 5 millisecond increments. Pressing the ◄ button will reduce the delay by 5 milliseconds. The maximum delay available is 150 milliseconds. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

REAR SURROUND LEFT DELAY

This option will set the surround delay for the rear surround left channel.

```
R-SUR-L DELAY
(    0 MS   )
```

When this option is selected, pressing the ► or **Select** buttons will advance the delay by 5 millisecond increments. Pressing the ◄ button will reduce the delay by 5 milliseconds. The maximum delay available is 150 milliseconds. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

EXIT LIPSYNC ADJUST

This option will return the user to the **Main Features Menu**.

```
EXIT
SURR. ADJUST
```

This option will return the user to the **Main Features Menu**. To return to the **Main Features Menu** press the **Select** button. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

A/V CINEMA SCALER PRO - OUTPUT SELECTION

The **Output Selection** menu will allow the user to select the output video resolution.

To enter the **Output Selection** menu use the ◄ and ► buttons from the **Main Features Menu** to select **Output Selection**. Use the ▼ or **Select** button to enter the menu. The following illustrates all possible options that are available in the **Output Selection** menu.

```
OUTPUT TIMING
1080P60
```

```
OUTPUT TIMING
2K
```

```
EXIT
OUTPUT SELECTION
```
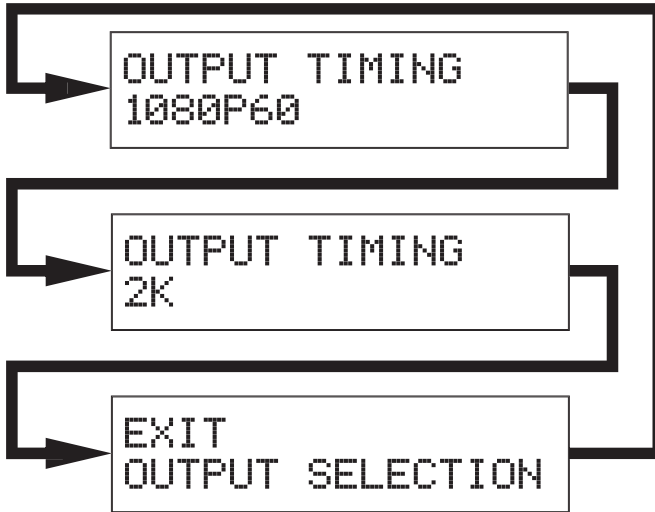
OUTPUT TIMING 1080P

This option will change the output resolution to a progressive 1920x1080 at 60Hz signal. All input formats will be scaled to this resolution.

```
OUTPUT TIMING
1080P60
```

Press the **Select** button to set this resolution. The change will be immediate. Pressing the ▼ button will cycle to the **Output Timing 2K** option. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

OUTPUT TIMING 2K

This option will change the output resolution to a progressive 2048x1080 at 60Hz signal. All input formats will be scaled to this resolution.

```
OUTPUT TIMING
2K
```

Press the **Select** button to set this resolution. The change will be immediate. Pressing the ▼ button will cycle to the **Exit Output Selection** option. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

EXIT OUTPUT SELECTION

This option will return the user to the **Main Features Menu**.

```
EXIT
OUTPUT SELECTION
```

This option will return the user to the **Main Features Menu**. To return to the **Main Features Menu** press the **Select** button. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

A/V CINEMA SCALER PRO - ON SCREEN DISPLAY ADJUST

The **On Screen Display Adjust** menu will allow the user to set options related to the on-screen display. Horizontal and vertical alignment, opacity, and time-out settings are found here.

To enter the **On Screen Display Adjust** menu use the ◄ and ► buttons from the **Main Features Menu** to select **On Screen Display Adjust**. Use the ▼ or **Select** button to enter the menu. The following page illustrates all possible options that are available in the **On Screen Display Adjust** menu.

```
HORIZONTAL
POSITION:     050
```

```
VERTICAL
POSITION:     050
```

```
TIMEOUT:       050
```

```
BACKGROUND: 050
```

```
EXIT
OSD ADJUST
```

HORIZONTAL POSITION

This option will change the horizontal position of the on-screen display.
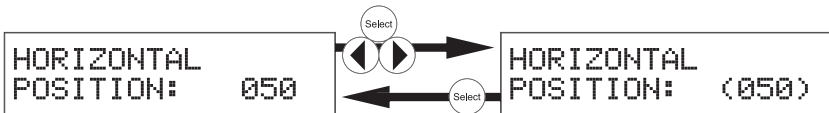
```
HORIZONTAL
POSITION:    050
```

Select

```
HORIZONTAL
POSITION:    (050)
```

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.
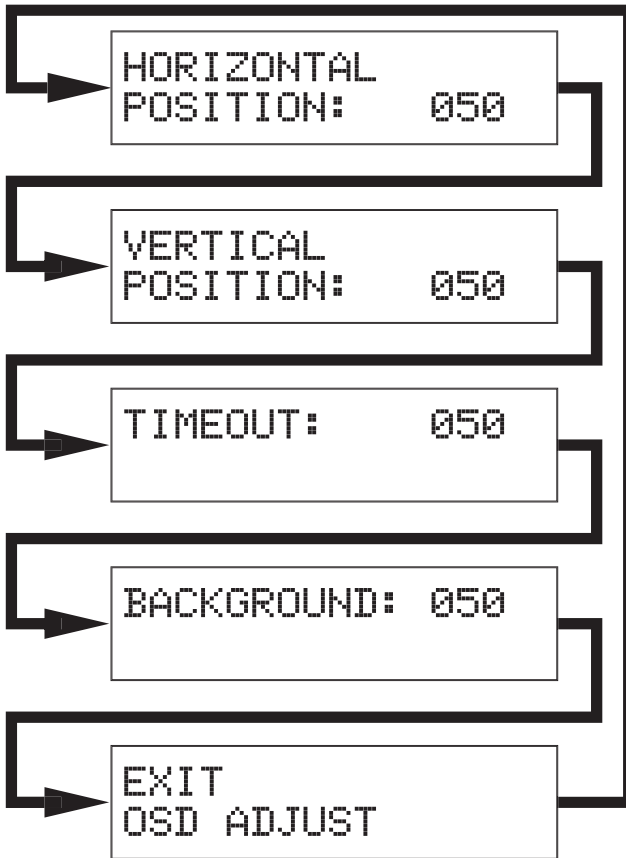
VERTICAL POSITION

This option will change the vertical position of the on-screen display.

```
VERTICAL                 Select          VERTICAL
POSITION:    050        ◄� ►     ──►      POSITION:   (050)
                        ◄── Select
```

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

TIMEOUT

This option will change the amount of idle time before the on-screen display returns to the **Main Screen**.
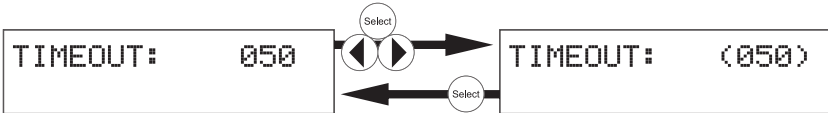
```
                         Select
TIMEOUT:     050        ◄� ►     ──►      TIMEOUT:    (050)
                        ◄── Select
```
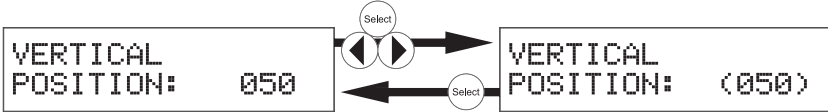
Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

BACKGROUND

This option will change the opacity level of the on-screen display.

```
                         Select
BACKGROUND:  050        ◄� ►     ──►      BACKGROUND:(050)
                        ◄── Select
```

Press the ◄ or ► or **Select** buttons to begin adjusting this option. A < and > character will surround the numerical value to signify that user adjustment can begin. Use the ◄ and ► to adjust the value of this option. When adjustments are complete, press the **Select** button to save. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.

EXIT OSD ADJUST

This option will return the user to the **Main Features Menu**.

```
EXIT
OUTPUT SELECTION
```

This option will return the user to the **Main Features Menu**. To return to the **Main Features Menu** press the **Select** button. Use the ▼ button to select the next option. Use the ▲ option to return to the previous option.
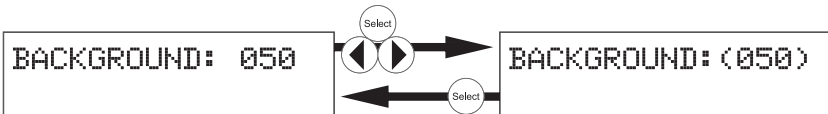
A/V CINEMA SCALER PRO - FIRMWARE

The **Firmware** option will simply display the current firmware that is running on the A/V Cinema Scaler Pro. This information may be needed when calling technical support.

A/V CINEMA SCALER PRO - DB-25 AUDIO BYPASS MODE

The A/V Cinema Scaler Pro can accept high quality 8 channel analog audio via the DB-25 input located on the back panel. This input is only accessible from the bypass mode. The audio through this input will be directly passed to the analog DB-25 output.

ENABLING BYPASS MODE

To enable the bypass mode, locate the bypass mode button on the front panel. From the **Main Screen** press the **Bypass** button on the front panel to enable the bypass mode. The bypass mode will cycle in the following order. Each button press will progress to the next option.

```
DVI1:   1080P60
A : AC3 48K 5.1
```
Main Screen

```
(BYPASS MODE)
    ANALOG
```
Analog DB-25 Input
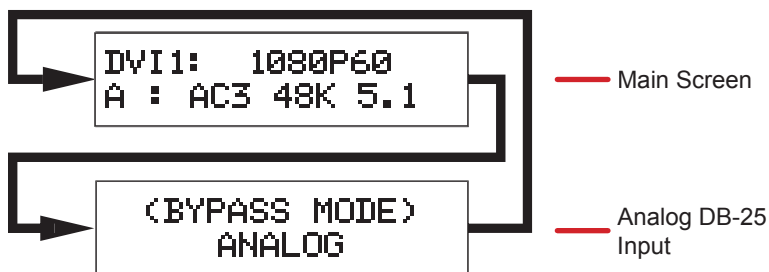
Please note that there will be **NO VIDEO OUTPUT** when using the bypass function.

Analog DB25 IN/OUT pinout Diagram

DB25 OUTPUT CON32

DB25 INPUT CON22

■ Channel for this version used
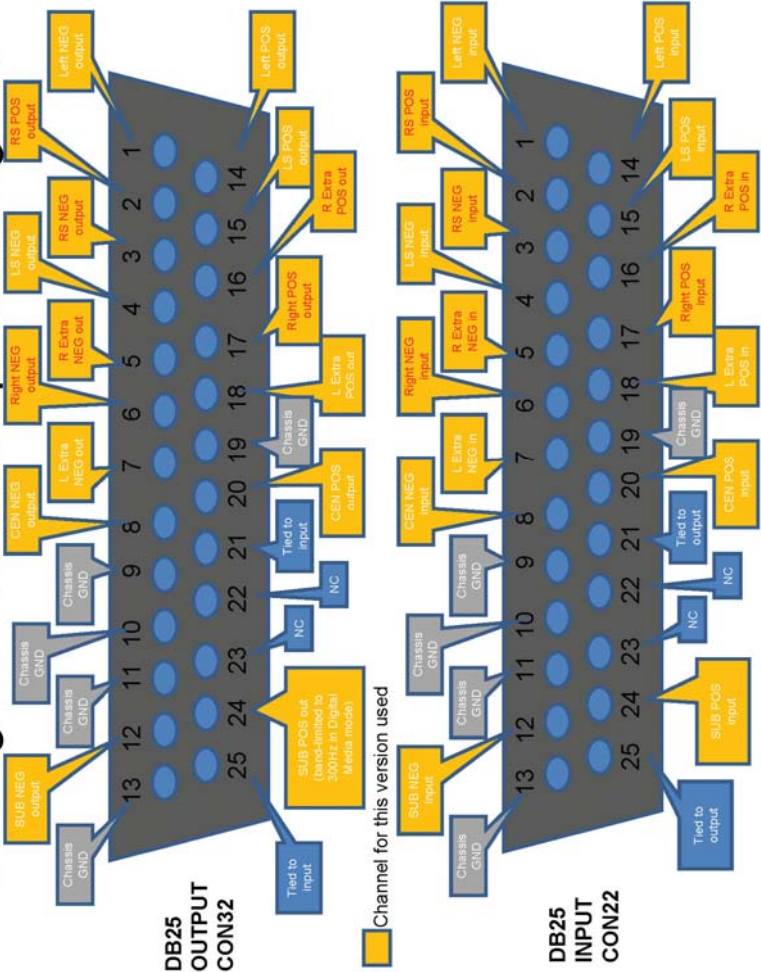
ANALOG INPUT AND OUTPUT PINOUT

ANALOG DB-25 OUTPUT

Pin	Function
1	Left Negative Output
2	Right Surround Positive Output
3	Right Surround Negative Output
4	Left Surround Negative Output
5	Right Extra Negative Output
6	Right Negative Output
7	Left Extra Negative Output
8	Center Negative Output
9	Chassis GND
10	Chassis GND
11	Chassis GND
12	Subwoofer Negative Output
13	Chassis GND
14	Left Positive Output

Pin	Function
15	Left Surround Positive Output
16	Right Extra Positive Output
17	Right Positive Output
18	Left Extra Positive Output
19	Chassis GND
20	Center Positive Output
21	Tied to Input
22	NC
23	NC
24	Subwoofer Positive Output (band-limited to 300Hz in DigitalMedia mode)
25	Tied to Input

ANALOG DB-25 INPUT

Pin	Function
1	Left Negative Input
2	Right Surround Positive Input
3	Right Surround Negative Input
4	Left Surround Negative Input
5	Right Extra Negative Input
6	Right Negative Input
7	Left Extra Negative Input
8	Center Negative Input
9	Chassis GND
10	Chassis GND
11	Chassis GND
12	Subwoofer Negative Input
13	Chassis GND
14	Left Positive Input

Pin	Function
15	Left Surround Positive Input
16	Right Extra Positive Input
17	Right Positive Input
18	Left Extra Positive Input
19	Chassis GND
20	Center Positive Input
21	Tied to Output
22	NC
23	NC
24	Subwoofer Positive Input (band-limited to 300Hz in DigitalMedia mode)
25	Tied to Output
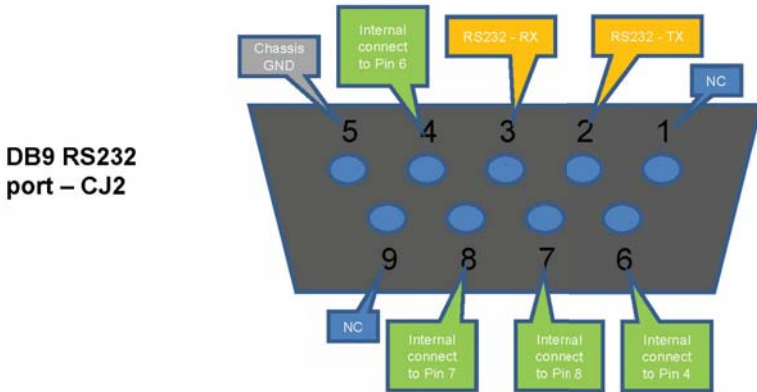
RS-232 SETTINGS

Bits per second 19200

Data bits 8

Parity .... None

Stop bits 1

Flow Control .... None

Set Commands

Command Code	Response	Description
S SOURCE 0	> SOURCE HDMI	HDMI
S SOURCE 1	> SOURCE DVI1	DVI1
S SOURCE 2	> SOURCE DVI2	DVI2
S SOURCE 3	> SOURCE YPbPr2	YPbPr2
S SOURCE 4	> SOURCE YPbPr1	YPbPr1
S SOURCE 5	> SOURCE PC	PC
S SOURCE 6	> SOURCE ANALOG_BYPASS	Analog Bypass
S SOURCE 7	> SOURCE DIGITAL_BYPASS	Digital Bypass(if available<---H/W exist)
S AUDIO 0	> AUDIO Stereo	Audio-Input select to Analog (Stereo)
S AUDIO 1	> AUDIO Coaxial	Audio-Input select to Digital (Coaxial)
S AUDIO 2	> AUDIO Optical	Audio-Input select to Digital (Optical)
REBOOT		Soft Reboot Machine
S OUTPUT 10	> OUTPUT 1080P60	1080P 60HZ RESOLUTION OUTPUT
S OUTPUT 19	> OUTPUT 2K	2K RESOLUTION OUTPUT
S SIZE 0	> SIZE FULL	SCALER FULL OUTPUT
S SIZE 1	> SIZE OVERSCAN	SCALER OVERSCAN OUTPUT
S SIZE 2	> SIZE UNDERSCAN	SCALER UNDERSCAN OUTPUT
S SIZE 3	> SIZE LETTERBOX	SCALER LETTERBOX OUTPUT
S SIZE 4	> SIZE PANSCAN	SCALER PANSCAN OUTPUT
S PICTUREMODE 0~3	> PICTUREMODE STANDARD~USER	0:STANDARD ; 1:MOVIE ; 2:VIVID ; 3:USER ,PICTURE MODE OUTPUT
S CONTRAST 0~100	> CONTRAST 0~100	CONTRAST 0~100 ADJUST [Defaut:50]
S BRIGHTNESS 0~100	> BRIGHTNESS 0~100	BRIGHTNESS 0~100 ADJUST [Defaut:45]
S HUE 0~100	> HUE 0~100	HUE 0~100 ADJUST [Defaut:50]
S SATURATION 0~100	> SATURATION 0~100	SATURATION 0~100 ADJUST [Defaut:60]
S SHARPNESS 0~100	> SHARPNESS 0~100	SHARPNESS 0~100 ADJUST [Defaut:32]
S NR 0~3	> NR OFF~HIGH	0:OFF ; 1:LOW ; 2:MIDDLE ; 3:HIGH ,NR CONTROL
S PCHPOSITION 0~100	> PCHPOSITION 0~100	H POSITION 0~100 ADJUST
S PCVPOSITION 0~100	> PCVPOSITION 0~100	V POSITION 0~100 ADJUST
S PCCLOCK 0~100	> PCCLOCK 0~100	PC MODE COLCK 0~100 ADJUST
S PCPHASE 0~63	> PCPHASE 0~63	PC MODE PHASE 0~63 ADJUST
S COLORTEMP 0~3	> COLORTEMP NORMAL~USER	0:NORMAL ; 1:WARM ; 2:COOL ; 3:USER ,COLOR TEMP SETTING
S RED 0~100	> RED 0~100	COLOR TEMP "RED" ADJUST [Defaut:47]
S GREEN 0~100	> GREEN 0~100	COLOR TEMP "GREEN" ADJUST [Defaut:47]
S BLUE 0~100	> BLUE 0~100	COLOR TEMP "BLUE" ADJUST [Defaut:47]
S OSDHPOSITION 0~100	> OSDHPOSITION 0~100	OSD H POSITION 0~100 ADJUST [Defaut:50]
S OSDVPOSITION 0~100	> OSDVPOSITION 0~100	OSD V POSITION 0~100 ADJUST [Defaut:50]
S OSDTIMEOUT 0~100	> OSDTIMEOUT 0~100	OSD TIMEOUT 0~100 SETTING [Defaut:10]
S OSDBACKGROUND 0~8	> OSDBACKGROUND 0~8	OSD OSDBACKGROUND 0~8 ADJUST [Defaut:5]
S RESET 1	> RESET ON	RESET ACTION
S OSDNOTICE 0	> OSDNOTICE ENABLE	ON SCREEN MENU is ON
S OSDNOTICE 1	> OSDNOTICE DISABLE	ON SCREEN MENU is OFF
AUDIO_DATA	AUDIO INFO. Like LCM shown	
PLIION	> PLII IS ON	DOLBY PROLOGICII PROCESSING ON
PLIIOFF	> PLII IS OFF	DOLBY PROLOGICII PROCESSING OFF
DRCON	> DRC IS ON	DYNAMIC RANGE CONTROL ON
DRCOFF	> DRC IS OFF	DYNAMIC RANGE CONTROL OFF
RLCON	> RLC IS ON	REFERENCE LEVEL COMP. ON
RLCOFF	> RLC IS OFF	REFERENCE LEVEL COMP. OFF
DVIA	> DVI-A ANALOG	DVI OUTPUT TYPE IS DVI-A ANALOG
DVID	> DVI-D DIGITAL	DVI OUTPUT TYPE IS DVI-D DIGITAL
EDID51	> EDID 5.1	HDMI EDID TYPE 5.1

| EDID71	> EDID 7.1	HDMI EDID TYPE 7.1
VGA_AUTO	> AutoConfig	VGA MODE AutoConfig
DVI?	> DVI-D DIGITAL or DVI-A ANALOG	SHOW DVI-D DIGITAL or DVI-A ANALOG
AUDSRC?	> AUDIO SRC=ANALOG or COAX or OPTICAL	SHOW AUDIO SRC=ANALOG or COAX or OPTICAL
INFO	> EXT-AVCINEMAA 3.21 07/02/2010	SHOW Latest F/W and date when F/W updated.

Status Commands

Command Code	Response	Description
R OUTPUT	> OUTPUT NATIVE~2K	SHOW OUTPUT STATUS
R SOURCE	> SOURCE HDMI	SHOW SOURCE STATUS
R SIZE	> SIZE FULL~PANSCAN	SHOW SIZE STATUS
R PICTUREMODE	> PICTUREMODE STANDARD~USER	SHOW PICTURE MODE STATUS
R CONTRAST	> CONTRAST 0~100	SHOW CONTRAST STATUS
R BRIGHTNESS	> BRIGHTNESS 0~100	SHOW BRIGHTNESS STATUS
R HUE	> HUE 0~100	SHOW HUE STATUS
R SATURATION	> SATURATION 0~100	SHOW SATURATION STATUS
R SHARPNESS	> SHARPNESS 0~100	SHOW SHARPNESS STATUS
R NR	> NR OFF~HIGH	SHOW NR STATUS
R PCHPOSITION	> PCHPOSITION 0~100	SHOW PC H-POSITION STATUS
R PCVPOSITION	> PCVPOSITION 0~100	SHOW PC V-POSITION STATUS
R PCCLOCK	> PCCLOCK 0~100	SHOW PC COLOK STATUS
R PCPHASE	> PCPHASE 0~63	SHOW PC PHASE STATUS
R COLORTEMP	> COLORTEMP NORMAL~USER	SHOW COLOR TEMP STATUS

NOTE: When using the Bypass Modes the only available commands are:

- **S SOURCE** commands
- **R SOURCE** command
- **INFO** command

RACK MOUNT / TABLETOP INSTALLATION

Rack mount ears are provided for installation of this unit into an equipment rack. Please refer to Figure 1 below. When using the product in a tabletop configuration, please install the provided rubber feet as shown in Figure 2.
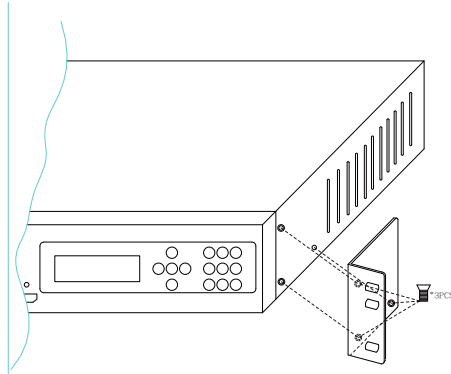
Figure 1. Rack-Mount Installation

1. Locate the side screws on the unit.
2. Remove the front 3 screws that are located closest to the front of the unit.
3. Using the removed screws, screw the rack mounting bracket into the unit.
4. Repeat the procedure on the opposite side of the unit.
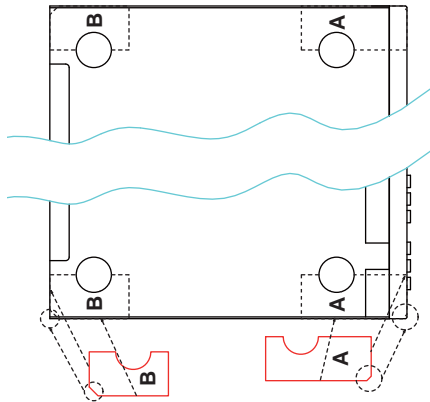
Figure 2. Desktop Installation

1. Turn the unit upside down.
2. Affix rubber feet to the unit, making sure you match up the correct shapes as shown in the diagram above.

Video Section

Input Connectors
HDMI	1 – Type A 19pin Female
VGA	1 – HD-15 Female
DVI-I	1 – DVI-I 29pin Female
DVI-D	1 – DVI-I 29pin Female (Digital)
Component	2 – 3 RCA

Input Resolutions
640x480	(60Hz)HDMI/DVI-I/DVI-D/VGA
800x600	(60Hz)HDMI/DVI-I/DVI-D/VGA
1024x768	(60Hz)HDMI/DVI-I/DVI-D/VGA
1152x864	(60Hz)HDMI/DVI-I/DVI-D/VGA
1280x800	(60Hz)HDMI/DVI-I/DVI-D/VGA
1360x768	(60Hz)HDMI/DVI-I/DVI-D/VGA
1280x960	(60Hz)HDMI/DVI-I/DVI-D/VGA
1600x1200	(60Hz)HDMI/DVI-I/DVI-D/VGA
1920x1200	(60Hz)HDMI/DVI-I/DVI-D/VGA
720x480i	(59/60Hz)HDMI/Component/DVI-D
720x480p	(59/60Hz)HDMI/Component/DVI-D
720x576i	(50Hz)HDMI/Component/DVI-D
720x576p	(50Hz)HDMI/Component/DVI-D
1280x720p	(50/60Hz)HDMI/Component/DVI-D
1920x1080i	(50/60Hz)HDMI/Component/DVI-D
1920x1080p	(25/29/30/50/59/60Hz)HDMI/Component/DVI-D
1920x1080p	(24Hz)HDMI/DVI-D (Passthough)

Output Connectors
DVI-I (DVI-A/DVI-D Switchable)	1

Output Resolutions
1920x1080p	(23.97/24/50/60Hz) DVI-I
2048x1080p	(23.97/24/50/60Hz) DVI-I

Component Input Sensitivity   1 Vp-p

HDMI Compliancy   1.2

HDCP Compliant   Yes

Input Colorspace
HDMI	RGB/YCbCr
VGA	RGBHV
DVI-I	RGBHV/RGB
DVI-D	RGB
Component	YPbPr

Output Colorspace   RGB

SPECIFICATIONS

Audio Section

Input Connectors
HDMI | 1
RCA Type Analog L/R | 5 (1 per input excluding HDMI)
Digital Coaxial | 5 (1 per input excluding HDMI)
Analog DB-25 | 1

Output Connectors
Analog DB-25 | 1

THD | < 0.001%

Stereo Input Max Voltage | 2Vrms

Output Level
From Digital Source | -20dBFS 350mVrms
From Analog Source | 0dBFS 3.5Vrms

Frequency Response | < ± 0.5dB

Signal-To-Noise Ratio*
Analog L/R Input | >90dB
Digital Input | >100dB
Analog DB-25 Input | >110dB

***20Hz-20kHz A weight filter, reference to full scale output of 3.5Vrms**

Coaxial Digital Audio Format Support
2 Channel LPCM | 32kHz – 96kHz
Multi-Channel AC-3 | 2-6 Channels Bitstream

HDMI Digital Audio Format Support
2 Channel LPCM | 32kHz – 96kHz
Multi-Channel AC-3 | 2-6 Channels Bitstream
8 Channel LPCM | 32kHz - 96kHz

Audio Processing
Dolby Pro Logic II* | All analog/digital inputs

***Analog DB-25 audio inputs bypass all audio processing**

SPECIFICATIONS

General Specifications

Operating Temperature   10 - 40° C Non-Condensing/Low Humidity

Control Terminal   RS-232 Serial Communications

Dimensions   16.9" W x 1.7"H x 8"D

Package Dimensions   18.5" W x 4.5"H x 12"D

Rack Mountable   1.5U (Rack Ears Included)

Shipping/Unit Weight   Estimate 12 lbs./ 9 lbs. (Final TBD)

Power
Universal Power Supply   100-240Vac, 50/60Hz
Power Output   12Vdc
Power Consumption   6.67A (80 Watts Max)

WARRANTY

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.

2. Customers outside the US are responsible for shipping charges to and from Gefen.

3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

PRODUCT REGISTRATION

Please register your product online by visiting the Register Product page under the Support section of the Gefen Web site.

This product uses UL listed power supplies.